

REMARKS

In an October 27, 2003 Office Action, the Examiner rejected pending claims 1, 3-6, 8-28, 25-26 and 28 and made the rejection final. Applicant herewith files an RCE and responds to the final Office Action.

Applicant has amended claims 1, 4, 6, 14-15, 19-20, 21-22 and 28 and added claims 31-38. Applicant respectfully addresses the objection and traverses all of the rejections made in the final Office Action.

CLAIM OBJECTIONS

The Examiner objected to claim 15 on the basis that the reference in line 1 should be to claim 26 rather than claim 14. Applicant has amended claim 15 accordingly.

NEW CLAIMS

Applicant adds hereto claims 31-38. Claims 31-34 are dependent claims including limitations removed from previously existing claims. Claims 35-38 are directed to a method for operating a three-dimensional tool in association with a design plan having spaces of a known scale for functional and space planning. Support for these claims is found in the specification.

35 U.S.C. § 102 REJECTION OF CLAIMS 1, 4-6, 12-14, 21-22, 25 AND 28

The Office Action rejected claims 1, 4-6, 12-14, 21-22, 25 and 28 under 35 U.S.C. § 102 as being unpatentable over Bobrick (1993). The Examiner argues that Bobrick includes all of the limitations of Applicant's rejected claims. The Examiner acknowledges that Bobrick does not disclose the use of a three-dimensional member engagable with the design plans and scaled to indicate a turning radius to imitate the turning radius of a support device used by persons with disabilities and the aging population.

Applicant has amended independent claims 1, 4, 6, 14, 21, 22 and 28 to clarify that the present invention is directed to the use of a "three-dimensional" member engagable with the design plans and scaled to indicate a turning radius to imitate the turning radius of a support


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device used by persons with disabilities and the aging population. Accordingly, Applicant submits that claims 1, 4, 6, 14, 21, 22 and 28 and the claims that depend therefrom are patentable over Bobrick.

35 U.S.C. § 103(a) REJECTION OF CLAIMS 1, 14, 19-21 AND 28 OVER BOBRICK IN VIEW OF MARSHALL

The Examiner rejected claims 1, 14, 19-21 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Bobrick in view of U.S. Patent No. 1,625,041, issued to Marshall. Applicant respectfully traverses this rejection.

Bobrick is distinguishable

Bobrick is a design tool based on an “overlay” concept. Bobrick uses templates—clear plastic sheets with various graphics of wheelchairs printed on them that can be laid on top of scaled drawings. Contrary to the Examiner’s assertion, Bobrick is not designed to “visually illustrate the feasibility of movement along the noted paths in light of the size and turning radius of the represented person.” As explained by Rex J. Pace, one of the designers of Bobrick, the Bobrick template is static in nature and not intended nor designed to be moved over a drawing in a manner reflecting wheelchair maneuvering or paths of travel. This is apparent in the layout of the Bobrick template, which include multiple graphics at different scales on a single sheet. Moving such templates over drawings in an effort to mimic wheelchair movements is cumbersome and creates a lot of distracting “visual” noise. Additionally, as Bobrick is a two-dimensional template, there are really no handles, cutouts, or shaped edges which can be used to assist in moving the template across a horizontal surface. Rather, these layouts indicate the “reference sheet” approach rather than a dynamic movable model. As a result, certain scale and spatial relationships are lost. (See accompanying Declaration Under 37 C.F.R. § 1.132 of Rex J. Pace.)

Marshall is distinguishable and not combinable with Bobrick

The Examiner acknowledges that Bobrick does not disclose the use of a three-dimensional member engagable with the design plans and scaled to indicate a turning radius to imitate the turning radius of a support device used by persons with disabilities and the aging population. The Examiner states that Marshall discloses a chart or map device and three-dimensional scaled figures for use in street incident recreation, and that it would be obvious to combine Marshall with Bobrick to produce Applicant's invention. Applicant submits that the invention of Marshall does not disclose, teach or suggest the Applicant's scaled icon figure for use in functional and space planning. Moreover, Bobrick and Marshall are not combinable as suggested, the teachings of Bobrick and Marshall provide no motivation to combine one with another, and in fact teach away from each other.

Marshall is directed to device and method for investigating street occurrences such as vehicular accidents. Marshall provides witnesses and investigators with a mockup of the street and cars, pedestrians or other street elements to facilitate recollection and restatement of events that occurred during such incidents. Marshall uses three-dimensional figures to represent the cars, pedestrians or other street elements. However, as explained in Marshall, it is the picture of the scene—the *relative* scale or shape of the three-dimensional figures—that is helpful to the recollection of the witness rather than any precision of scale or movement:

With respect to the different types of automobiles, other vehicles, etc., it is quite an advantage to have them at least approximately in the form of the object actually involved, since the witness to the event is better able to reproduce his mental picture if he can use like objects and have the picture itself illustrate which object is a coupe or sedan automobile, which a truck or tank-car, which a street car, etc. The marker objects representing houses are of several sizes, or in small sizes which may be built upon themselves, in order better to meet actual conditions, and by means of shrubbery, trees, stop signals, etc., the actual situation may be clearly expressed in pictured form.

(Marshall, p. 2, ll. 81-97.)

As expressly stated in the patent, the focus and point of novelty of Marshall is in providing a memory aid for investigation of street incidents. (Marshall, p. 1, ll. 51-110.) The key to Marshall is not to provide a scaled support device for use on a design plan to evaluate the accessibility needs based on the precise movement along an open space in the plan. Rather, the key to Marshall is the use of approximately accurately shaped figures representing street incident participants solely to encourage accurate recollection of incident events. Marshall was never intended (nor is it able) to be used for functional and space planning in architecture, interior design, and construction of residential and commercial structures.

The difference between Marshall's street map and figures used for *incident recreation* and the Applicant's design tool used for *functional and space planning in construction design* is significant. For Marshall's purposes, positional relationships between relatively sized objects are needed. But this is not sufficient for the Applicant's purposes, namely, to provide design tools for space planning in construction design.

First, the street map used in Marshall is not a design plan having spaces of a known scale, such as hallways, doorways, stairways and rooms. Rather, Marshall's street map is specifically described as providing witnesses with a picture as to the "relative position of objects involved" in street incidents. (Marshall, p. 1, ll 62-63.) For purposes of recreating the scene, it is only necessary that the scene be reproduced "substantially to scale" to approximately real life objects. (Marshall, p. 1, ll. 108-109.) In contrast, Applicant's invention is dimensioned precisely to scale as required for design plans used as reference in architecture and construction to represent actual hallways, doorways, stairways, rooms and other spaces. Moreover, there is no indication whatsoever in Marshall that the disclosed street maps and figures can be used for functional and space planning, such as in the fields of architecture, interior design, and construction of residential and commercial structures.

Second, there is no disclosure in Marshall that the figures are scaled to "indicate a turning radius to imitate the turning radius of a support device" as required in the Applicant's claims. As

described above, the figures used in Marshall's street maps are approximated representations of cars, pedestrians and other street elements, not scaled to represent the precise dimensions of the objects they represent. To fulfill the purpose of Marshall, it is only necessary for the witness to recognize the type of car or other street element and distinguish it from another car or street element, and to be able to illustrate the relative distances between the various street elements to recreate the incident. In contrast, it is necessary in the Applicant's claimed invention that the icon figures and base be to scale when used with the design plans to allow for accurate functional and space planning. Without this proper scale, hallways would be improperly sized and doorways too small for the intended purpose.

Third, because the Marshall street map and figures are used for *incident recreation* rather than functional and space planning, Marshall teaches away from representing an area, such as along the hallways, doorways, stairways, rooms and other spaces of a design plan, in a way that visually illustrates the feasibility of movement along the noted paths of persons with disabilities and the aging population in light of the size and turning radius of a support device.

Because Marshall fails to disclose the elements for which it is cited, or to teach the limitations of the Applicant's claims, Marshall is not properly the basis for rejection of any of the Applicant's claims. Without Marshall as the basis for the Examiner's rejections, none of Applicant's claims are properly rejected. Accordingly, on this basis alone, each Applicant's claims should be allowed.

In addition, with respect to claims 1, 14, 19-21 and 28 rejected over Bobrick in view of Marshall, the Examiner fails to provide any teaching or suggestion for combining the cited references, or any evidence that the references are in fact combinable. The differences between Bobrick in both structure and function are dramatic. Bobrick is a two-dimensional template. Marshall is a street map having three-dimensional figures of cars and other street elements. The Bobrick template has various graphics of wheelchairs printed on it that can be laid on top of scaled architectural and construction drawings. Marshall has drawings of streets and

intersections. Bobrick is not designed to “visually illustrate the feasibility of movement along the noted paths in light of the size and turning radius of the represented person.” Likewise, Marshall is not designed to visually illustrate the precise turning radius of represented elements, but rather to facilitate the recreation of an incident scene. Bobrick is a design tool template for use in functional and space planning in construction design. Marshall is a street map and figures for use in *incident recreation*. The Examiner fails to indicate how the two-dimensional Bobrick design template having scaled graphics of wheelchairs could be obviously combined with Marshall’s street maps and three-dimensional figures of car and street objects used to recreate an incident scene.

Moreover, the Examiner does not point to any teaching or suggestion to combine the two-dimensional Bobrick design template with Marshall’s street maps and three-dimensional figures of car and street objects used to recreate an incident scene. Bobrick and Marshall are from two completely different industries: Bobrick is for use in architecture, interior design and construction while Marshall is for use in street investigation, research and reporting. There is not indication that these two industries overlap, or that tools used in one are combinable with those in the other.

37 C.F.R. § 1.132 Declarations

Based solely on the reasons set forth above, Applicant’s claims are not obvious over Bobrick in view of Marshall, and should accordingly be allowed. In addition, Applicant submits further evidence demonstrating that Applicant’s invention is not obvious. Submitted herewith are the declarations of individuals who have been intimately involved in accessible and universal design and are uniformly knowledgeable regarding existing design tools as well as the commercial embodiment of Applicant’s present invention, namely, the Visualizer™ Set. These declarations are from the following individuals:

- Susan M. Duncan, inventor of the subject matter of the pending application.
- Sandra Hartje, Associate Professor of Interior Design and Housing in the Department of Family and Consumer Sciences at Seattle Pacific University.
- Louis S. Tenenbaum, noted consultant, speaker and author in the aging, health and construction industries.
- Michael Miller, Americans with Disabilities Act (ADA) compliance manager for Sound Transit in Seattle, Washington.
- Rex J. Pace, architectural designer, illustrator, and author with sixteen years experience in accessible design, and participant in development of the Bobrick template.
- Laurie Ringaert, Director of The Center for Universal Design at North Carolina State University, Raleigh, North Carolina.¹

Each of these individuals is an expert in the relevant field and extremely knowledgeable regarding existing accessibility design tools. Each of these individuals has confirmed in their declaration that (1) there has been a long-felt need in the industry for a three-dimensional design tool engagable with a design plan having spaces of a known scale for functional and space planning that is scaled to indicate a turning radius to imitate the turning radius of a support device used by persons with disabilities and the aging population; and (2) Applicant's invention meets the long-felt need by providing a design tool that accomplishes the desired purpose. The declarations further confirm that it is the claimed features of Applicant's invention that meets the long-felt need. In addition, Ms. Duncan confirms that Applicant has 100% of the market share for this type of design tool, and that demand is incredible for the commercial embodiment of the invention despite the relatively short period that it has been available.

The Federal Circuit has repeatedly held that a Court (and the Patent Office) must consider objective factors when making an obviousness determination. *See, e.g., Pro-Mold and Tool Co., Inc. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed. Cir. 1996) (holding that the district

¹ Ms. Ringaert has reviewed and approved her declaration, but due to inclement weather has not been able to return the signed declaration. Applicant will forward a copy of the signed declaration as soon as it is received.

court erred for failing to consider factors such as commercial success, long felt need and failure of others, and copying of the invention by others.). Thus, even if the differences between the invention and the prior art initially “appear technologically minor,” the objective indicia can provide a compelling case of nonobviousness. *See Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1273 (Fed. Cir. 1991).

In the present case, both singly and taken as a whole, Applicant submits that the declarations provide persuasive evidence that Applicant’s claimed invention is not obvious. Accordingly, each of Applicant’s claims should be allowed.

35 U.S.C. § 103(a) REJECTION OF CLAIMS 3-6, 8-9, 11-13, 15-16, 18, 22 AND 26 OVER BOBRICK, MARSHALL AND STANSBURY

The Examiner rejected claims 3-6, 8-9, 11-13, 15-16, 18, 22 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Bobrick and Marshall, as described above, further in view of U.S. Patent No. 4,276,695, issued to Stansbury. For the reasons set forth above, Bobrick and Marshall are not properly cited to provide the basis for rejecting Applicant’s claims. Accordingly, on this basis alone, claims 3-6, 8-9, 11-13, 15-16, 18, 22 and 26 should be allowed. In addition, Applicant submits that Stansbury does not disclose, teach or suggest Applicant’s wand member. Moreover, Bobrick and Marshall are not combinable with Stansbury as suggested, the teachings of Bobrick, Marshall and Stansbury provide no motivation to combine one with another, and in fact teach away from each other.

The Examiner acknowledges that Bobrick and Marshall do not disclose a wand member extending from the icon figure at any angle relative to the perpendicular or from an opening in the icon figure wherein a first end of the wand member is maintained within the opening by frictional contact. The Examiner states that Stansbury discloses a roller measure device (30) with an opening (101) with a wand/handle member (44) wherein the wand/handle member is held within the opening by frictional contact/sonic welding (col. 6, lines 48-50) or any other connection means (Figure 5) in order to push the device around easily.

There is no teaching or suggestion to combine the handle 44 of Stansbury with the two-dimensional template of Bobrick, let alone to do so in combination with the street map and three-dimensional figures of cars, pedestrians and other street elements of Marshall. The handle 44 of Stansbury is meant to propel a “portable mechanical roller measure device for moving forwardly along a surface and thereby measuring a distance there along.” (Stansbury Abstract.) In contrast, the two-dimensional template of Bobrick is meant to be stationary, and the car and other street element figures of Marshall are meant to be stationary, or moved only to show altered placement for purposes or recreating an incident scene. It would not be possible to use the handle 44 of Stansbury to move the objects, especially in the manner required by the Applicant’s claims, namely, to “indicate a turning radium to imitate the turning radium of a support device.”

With respect to claims 11 and 18, the Examiner acknowledges that Bobrick and Marshall do not disclose first and second ridges along the opening and wand/handle member respectively to provide a snap lock combination. The Examiner states that Stansbury discloses a snap lock combination between two ridges (172, 173) on two pieces (52) of the wand/handle member that form a snap lock combination when placed together (Figure 9).

The Applicant initially notes that Stansbury does not disclose or teach using sonic welding to secure the handle 44 to the roller measure device 30. At column 6, lines 48-50 it teaches that sonic welding may be used to join projections 46 to the housing, forming the mold into which the handle is placed. Thus, contrary to the Examiner’s suggestion, there is no teaching to secure the wand to the object using sonic welding or any such equivalent.

In addition, the Examiner incorrectly suggests that a snap lock combination between sections of the handle 44 of Stansbury teaches or suggests a snap lock combination between the handle 44 and the roller measure device 30. To the contrary, there is not suggestion in Stansbury to affix the handle 44 into the roller measure device 30 other than by friction. To do so is

unnecessary, as the only force when using the roller device is in a direction to maintain the handle securing in the opening.

35 U.S.C. § 103(a) REJECTION OF CLAIMS 10 AND 17 OVER BOBRICK, MARSHALL, STANSBURY AND RIEHLE

The Examiner rejected claims 10 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Bobrick, Marshall and Stansbury, as described above, further in view of U.S. Patent No. 4,250,642, issued to Riehle. For the reasons set forth above, Bobrick, Marshall and Stansbury are not properly cited to provide the basis for rejecting Applicant's claims. Accordingly, on this basis alone, claims 10 and 17 should be allowed. In addition, Applicant submits that Riehle does not disclose, teach or suggest Applicant's magnet combination. Moreover, Bobrick, Marshall and Stansbury are not combinable with Riehle as suggested, the teachings of Bobrick, Marshall, Stansbury and Riehle provide no motivation to combine one with another, and in fact teach away from each other.

With respect to claims 10 and 17, the Examiner acknowledges that Bobrick, Marshall and Stansbury do not disclose a metal plate located in the opening, and a magnet in the end of the wand/handle member, thereby providing a plate-magnet combination. The Examiner introduces Riehle, however, for the notion that metal plates and magnetic planning elements connected to the plates are common in the art, and therefore use of a plate-magnet combination would be obvious. Applicant respectfully disagrees.

Riehle is directed towards the use of a plate-magnet combination to hold planning elements on a foil sheet. Riehle does not teach or suggest the use of a plate-magnet combination to hold a wand in place on a three-dimensional object to be used to move the three-dimensional object along a design plan. There is no indication that magnetized planning elements can be incorporated into a wand, or foil into a three-dimensional objection, or how such magnetized elements could work in combination with Bobrick's two-dimensional template, Marshall's cars

and street elements or Stansbury's roller measure device. Accordingly, Applicant submits that claims 10 and 17 should be allowed.

CONCLUSION

Applicant submits that the claims are patentable over the prior art. Accordingly, Applicant respectfully requests reconsideration of the application and allowance of the claims.

The Examiner is invited to contact the undersigned should direct communication on this matter be deemed helpful to facilitate progression of the case.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Susan M. Duncan

Attorney Docket No. ADAP-1-1002

Serial No.: 09/881,856

Group Art Unit: 2859

Filing Date: June 13, 2001

Examiner: T. Reis

Title: SPACE CONFIGURATION DESIGN TOOL

DECLARATION UNDER 37 C.F.R. § 1.132 OF SUSAN M. DUNCAN
TO THE COMMISSIONER OF PATENTS:

I, Susan M. Duncan, residing at 1213 6th Street NE, Auburn, Washington 98002,
5 pursuant to 37 C.F.R. § 1.132, hereby state as follows:

1. I am the inventor of the subject matter of the above-identified patent
application. I am also the founder and president of *ADaptations* inc.® I have been involved
with accessibility issues for more than 20 years. Since 1978, my company, *ADaptations* inc.,
has specialized in planning for and providing accessibility and space planning services for a
10 wide variety of industries. Since the mid 1980's, I have personally taught more than 400
classes regarding accessibility and space planning at five different universities or other
schools of higher education.

2. Professionals in the fields of architecture, design, manufacturing, and
construction, as well as building code officials and similar types of technical support
15 personnel, have had very limited support in terms of design tools necessary to plan effective
accessible layouts. The challenge is to design residential and commercial space to support the
accessibility needs of persons with disabilities and the aging population. Building designers,
contractors, and technical support personnel must be able to efficiently and effectively
configure interior space as well as access into and out of building structures to accommodate
20 the accessible needs.


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3. Various design tools have been used to attempt to accomplish this goal. Traditionally, planning for accessibility has been primarily accomplished by professionals using an architectural scale. More recent, within the last approximately ten years, CAD programs have integrated icons representing the wheelchair icon footprint and dimensions.

5 These icons are inserted on drawings to demonstrate relative clearances of elements within the drawings and are static in nature.

4. During the last approximately ten years, various template products have been used in the industry as an overlay on top of plans to assist with approximating wheelchair spacing. A good example is the drawing template or overlay provided by Bobrick Washroom
10 Equipment, Inc. The 4"x 6" template is a clear hard plastic overlay used on top of plans to assist with approximating wheelchair maneuverability and planning. This template has been a complimentary marketing piece promoting restroom planning in an effort to increase the sale of Bobrick products.

5. Existing design tools for accessibility and space planning suffer from severe
15 practical limitations. Overall, current systems are limited to marking or indicating a static location on a design plan; they do not demonstrate and visually describe the actual movement of a person using a wheelchair or other types of mobility equipment as it negotiates the space. For example, it is difficult if not impossible to demonstrate and visually show how a person using a wheelchair actually maneuvers in spaces using an architectural scale. Using an
20 architectural scale verifies clearances but does not show the movement. Using the Bobrick template as an overlay requires manual manipulation of the template. Hence fingers obscure the visual movement being demonstrated. The same limitations are seen using other types of templates as well as the CAD program: each can be used to mark a location on a drawing or plan with a wheelchair icon footprint, but such static representations cannot be used to show
25 actual maneuverability within the space.

6. As a result of limitations with current accessibility tools or systems, errors are frequently made in the resulting design or construction due to a lack of understanding as to how a person uses a wheelchair and the space required in which to maneuver the wheelchair.

7. Largely as a result of the limitations of and disadvantages associated with existing accessibility tools and system, as well as the general lack of education on the issue, the market has been slow to embrace accessibility in design and construction. The passing of the Civil Rights Law, the Americans with Disabilities Act (ADA of 1990), helped to increase awareness and demand on professionals to produce more environmental changes. About this time, colleagues in the design field began promoting “Universal Design”—an approach to design that embraces a philosophy of designing products and environments usable by all people. While these efforts have created an increasing need for education and support materials to properly address accessibility and space planning needs, there has long been a void—unmet by the above-described tools and system—when it comes to useful, accurate and ultimately practical accessibility and space planning tools.

8. The space configuration design tool of the present invention uniquely provides an icon or component scaled to indicate turning radius to imitate the turning radius and wheelchair footprint when used in association with design plans having hallways, doorways, stairways, rooms and other spaces of a known scale. The design tool allows designers, contractors, students and a host of other industry personnel to quickly, easily, accurately and visually evaluate accessibility issues for building planning purposes and thereby provide functional and space planning in the fields of architecture, interior design, and construction of residential and commercial structures. By so doing, the space configuration design tool of the present invention overcomes the limitations and disadvantages of the existing accessibility tools and systems to fulfill the long-felt, unmet need of the industry.

9. We are just now officially launching the world-wide sales of the Visualizer™ Set product—the commercial embodiment of the space configuration design tool of the



present invention. ADAPtations inc. is the only company authorized to manufacture and sell the Visualizer Set. The demand has been incredible. We have received advanced orders for more than 100 units from more than 70 individuals or companies around the world, and expect that orders will continue to pour in as product marketing and word-of-mouth advertising of the product increases.

I hereby further declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: January 23, 2004

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